

~~TOP~~ SECRET

CONTROL NO. By E 41831-6

*Cy5*

REFERRED TO OFFICE	RECEIVED			RELEASED		SEEN BY	
	SIGNATURE	DATE	TIME	DATE	TIME	NAME & OFFICE SYMBOL	DATE
<i>GMD / PAG</i>							

(OVER)

Handle Via Indicated Controls

**BYEMAN**

Access to this document will be restricted to those persons  
cleared for the specific projects;

.....

.....

WARNING

This document contains information affecting the national security of the United States within the meaning of the espionage laws U. S. Code Title 18, Sections 793 and 794. The law prohibits its transmission or the revelation of its contents in any manner to an unauthorized person, as well as its use in any manner prejudicial to the safety or interest of the United States or for the benefit of any foreign government to the detriment of the United States. It is to be seen only by personnel especially indoctrinated and authorized to receive information in the designated control channels. Its security must be maintained in accordance with regulations pertaining to BYEMAN Control System.

~~TOP~~ SECRET

GROUP 1  
Excluded from automatic  
downgrading and declassification

BYE 41831-6  
10 September 1965

Copy 5

MEMORANDUM FOR: Assistant for Plans & Development, NPIC

ATTENTION:

STAT

SUBJECT: Evaluation of Missions GT 208-65 and GT 209-65

REFERENCE: NPIC Project 22058-6

1. The objective of this evaluation was to compare the relative qualities of Camouflage Detection, (CD) Color, and high resolution Black and White (B&W) film in detecting camouflaged tanks located at Camp Pendleton, California.

2. Basic guidance for the project was the requirement itself which stated only that there was an unknown quantity of tanks somewhere in the camp (approximately 400 sq mi). No ground truth information was made available until the last day of the PI phase of the project. Since the photography was taken over a military training area on a normal training day, there were several tactical problems being accomplished at the time of the photography, including tactical camouflage of vehicles.

3. When coordinates of the target area were finally given, the following problems were encountered:

A. Of the four Color and four B&W passes only two passes of each type covered the target area. One pass of each was 100% cloud covered, and the other pass of each was 60% cloud covered.

B. Only one pass of the four CD runs over the area was of sufficient quality for interpretation.

C. The area chosen is in the vicinity of a tank park and tank driving range, both active at the time of photography.

4. Discussion:

A. The project required comparative analysis of the three films used, however, in the target area cloud cover on the B&W and Color sensors precluded analysis, therefore the interpretation and evaluation are based upon CD film only.

B. Five probable tanks and one possible tank were noted, however, no confirmation could be made on B&W or Color film due to the limiting factor mentioned above.

Excluded from automatic  
downgrading and  
declassification

HANDLE VIA DVERMIN  
CONTROL SYSTEM ONLY

BYE 41831-6

10 Sept. 65

Page - 2

SUBJECT: Evaluation of Missions GT 208-65 and GT 209-65

C. Informal guidance had indicated that the camouflage would be of different types, from the use of potted plants to dead brush. Four of the suspect vehicles observed showed no marked difference in camouflage, all showed a cyan shade of dying brush. One suspect vehicle appeared bright red indicating live green foliage in contrast with the drier surrounding foliage. A cyan shade showed through the red indicating the presence of an infra red absorbing object beneath.

5. Conclusions:

A. The project requirement has not been and cannot be fulfilled as far as the designated target area is concerned because of a lack of adequate cover by all sensors.

E. If true evaluation of the films is desired, contact be made with Camp Pendleton and determine what tactical problems were being conducted in other parts of the camp on 18 August which might be used in further evaluation.

C. Although the objectives of the requirement could not be met using the designated target area, they were met by the selection of a second area by the interpreters. At the time of photography there was a tactical field problem in the San Onofre Canyon which involved track and wheeled vehicles, tents and equipment, and the use of camouflage. Based on an analysis of this tactical problem, the following valid evaluation was made:

(1) First indication of tanks in subject area of study was the track activity, readily apparent on all three film types.

(2) With all films coordinated at the target area, CD film was used to locate the color anomalies, and confirmed on the B&W and Color.

(3) Color film proved of the least value. The individual targets are so small that the color resolution failed to confirm a single target.

(4) Neither CD film nor B&W could be used alone in the detection of vehicles in a camouflaged or partly camouflaged environment at the scale flown (approximately 1:24,000 and 1:42,000 respectively).

BYE 41831-6  
10 Sept. 65  
Page - 3

SUBJECT: Evaluation of Missions GT 208-65 and GT 209-65

(5) The best method of camouflage in this particular area appeared to be in using cut foliage in a sun-burned (dead) area rather than attempting to make a living camouflage.

(6) Resolution of the CD film for the most part gave only indications; detail and confirmation were gotten from the B&W.

(7) Second generation Color film lacked detail as discussed above.

(8) For the detail needed in camouflage detection, the B&W should be at least at scale of 1:24,000 in broken or heavily forested areas.

(9) A side issue, but of importance, the titling data on the Color film is not readable on the Richardson Viewer.

(10) The CD film would best be used for special missions with a fairly small search area, and backed up by B&W photography of the same scale.

STAT

Colonel, USA  
Assistant for Photographic Analysis, NPIC

Distribution:

Cys 1&2 - Asst for P&D Attn: Lt. Col Hoy  
3 - PAG/NPIC  
4 - IPO/PAG/NPIC  
5 - GMD/PAG/NPIC